

The Role Of Nurses In Preventing Gangreneous Wounds In Diabetes Mellitus Patients At H. Sahudin Kutacane Hospital

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ABSTRACT

Keywords:

Role of Nurses, Prevention of Gangrene Wounds, Diabetes Mellitus

Diabetes mellitus is one of the most common diseases in Indonesia. Diabetes mellitus is a disease characterized by chronically elevated blood sugar levels that can affect many people from all levels of society. One of the risk factors for diabetes mellitus is the level of knowledge, the role of nurses and support from health workers in gangrene prevention behavior. The aim of this research is to determine the role of nurses in preventing gangrene wounds in diabetes mellitus sufferers at H.Sahuddin Kutacane Regional Hospital. This research method uses a quantitative type of correlational research with a cross-sectional research design. The sample was 29 nurse at the H. Sahudin Kutacane Regional Hospital, using a simple random sampling technique. Data were collected using a questionnaire on the level of knowledge, the role of nurses and support from health workers in behavior to prevent gangrene wounds. The variables studied were the level of knowledge, the role of nurses and support from health workers as the dependent variable and the independent variable was behavior to prevent gangrene wounds. The data analysis used was the spearman rho correlation statistical test. The results of the study showed that almost half of the diabetes mellitus patients at H. Sahudin Kutacane Hospital had a level of knowledge (25%) with behavior to prevent gangrene wounds, while the role of nurses or support from health workers with behavior to prevent gangrene wounds was (21%). The results of statistical test analysis using Spearman Correlation show that the value $H_0 = 0.000$ is known to be $p < (0.05)$. Which means that there is a role for nurses in preventing gangrene wounds in diabetes mellitus sufferers. As for the researchers' suggestions, the H. Sahuddin Regional Hospital should be able to increase the provision of information and provide leaflets/brochures to diabetes mellitus patients about preventing gangrene wounds as one of the successes of therapy in diabetes mellitus patients.

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1. INTRODUCTION

Diabetes Mellitus is a heterogeneous group of disorders characterized by increased blood glucose levels or hyperglycemia. Glucose normally circulates in certain amounts in the blood. Glucose is formed in the liver from the food consumed. Insulin, a hormone produced by the pancreas, controls glucose levels in the blood by regulating its production and storage. In diabetes mellitus patients, the body's ability to react to insulin can decrease, or the pancreas can stop producing insulin. This situation can cause hyperglycemia which can result in acute metabolic complications such as diabetic ketoacidosis and hyperosmolar nonketotic hyperglycemic syndrome (HHNK). Long-term hyperglycemia can contribute to chronic microvascular complications (kidney and eye disease) and complications in neuropathy/nerve diseases (Tandra, 2020).

Diabetes is also accompanied by an increased incidence of macrovascular disease including myocardial infarction, stroke and peripheral vascular disease. Data from the International Diabetes Federation in 2019 states that there are 463 million people in the world who suffer from diabetes mellitus and it is estimated that this will increase to 578.4 people in 2030 (Soelistijo, 2021).

Data from Riskesdas in 2018, in Indonesia there were 1,017,290 diabetes mellitus sufferers. Diabetic ulcers are caused by several factors, namely neuropathy, trauma, foot deformity, high pressure on the soles of the feet and vascular disease. Diabetic ulcers can also be caused by continuous pressure or friction which results in damage to the skin. This friction can cause abrasion and damage the epidermal surface of the skin. Physiologically, wound healing occurs in the same way in all sufferers, with skin cells and tissue returning quickly or slowly (Nisak, 2021).

The role of nurses or support from health workers can influence behavior to prevent gangrene in people with diabetes mellitus. Health workers such as nurses act as educators by providing appropriate information to diabetes mellitus sufferers about diabetes mellitus, providing health education related to prevention so that complications do not occur, providing treatment to sufferers and providing health education about how to manage diabetes mellitus. correctly so that it can motivate diabetes mellitus sufferers and provide accurate and correct information regarding the prevention of gangrene wounds in diabetes mellitus sufferers (Nisak, 2021).

In the research journal with the title the role of nurses in preventing gangrene wounds in diabetes mellitus sufferers in the internal medicine ward at H. Sahudin Kutacane Hospital, the majority were good, namely 24 people (82.75%) in the behavior of diabetes mellitus patients in preventing gangrene wounds at H. Sahudin Kutacane Hospital. The majority of prevention of gangrene wounds was good, as many as 15 people (51.73%) There was a relationship between the level of knowledge of diabetes mellitus patients about preventing recurrence of gangrene wounds and behavior to prevent recurrence of gangrene wounds. So the value is ($p = 0.033 < 0.05$), with a "medium" level of significance and the value is (0.404).

2. METHOD

This research method uses quantitative research, with a cross sectional approach. The population in the study were diabetes mellitus patients who visited the H. Sahudi Kutacane Regional Hospital in 2023. The sample for this study was 29 nurses using a simple random sampling technique. The independent variable in this research is the role of nurses or support from health workers. Meanwhile, the dependent variable in the study was behavior to prevent gangrene wounds in diabetes mellitus patients. The data collection technique is by questionnaire, using the Spearman Rank statistical test. This research was conducted at the H. Sahudin Kutacane Regional Hospital in October 2023.

3. RESULTS AND DISCUSSION

Based on the results of research conducted in October 2023 which aims to analyze the role of nurses in preventing gangrene wounds in diabetes mellitus patients obtained from the frequency distribution of respondents according to the level of knowledge that the majority of respondents are in RSUD. H Sahudin Kutacane.

Distribution of Characteristics of Diabetes Mellitus Respondents at H. Sahudin Kutacane Regional Hospital

| No | Respondent | Characteristic | (f) | (%) |
|----|------------|--------------------|-----|-------|
| 1 | Age | <45 | 5 | 17,2 |
| | | 45-60 | 17 | 58,6 |
| | | >60 | 7 | 24,1 |
| | | Total | 29 | 100,0 |
| 2 | Gender | Man | 15 | 51,7 |
| | | Woman | 14 | 48,3 |
| | | Total | 29 | 100,0 |
| 3 | Education | Elementary School | 8 | 27,6 |
| | | Junior High School | 12 | 41,4 |
| | | High School | 8 | 27,6 |
| | | D-3 | 1 | 3,4 |
| | | Total | 29 | 100,0 |
| 4 | Work | IRT | 14 | 48,3 |

| NoRespondent Characteristic | (f) | (%) |
|-----------------------------|-----|-------|
| Farmer | 5 | 17,2 |
| Pension | 2 | 6,9 |
| Self-employed | 8 | 27,6 |
| Total | 29 | 100,0 |

Based on the research results obtained from the distribution of characteristics of diabetes mellitus respondents, of the 29 respondents in this study, there were 5 people (17.2%) aged <45 years, 17 people (58.6%) aged 45-60 years, 7 people (24.1%) aged >60 years and over (older adults). Based on gender, the majority were 15 men (51.7%). The majority had secondary school education, 12 people (41.4%), and in terms of occupation, the majority of respondents were housewives, 14 people (48.3%).

Distribution of Respondents Based on Knowledge of Diabetes Mellitus Patients in Preventing Gangrene

| Knowledge | (f) | (%) |
|------------|-----|-------|
| Good | 22 | 75,9% |
| Enough | 4 | 13,8% |
| Not enough | 3 | 10,3% |
| Total | 29 | 100% |

Based on the research results obtained from the distribution of respondents according to knowledge, the majority of diabetes mellitus respondents at H. Sahudin Kutacane Regional Hospital had good knowledge in preventing gangrene, namely 22 people (75.9%).

| Nurse's Role | (f) | (%) |
|--------------|-----|-------|
| Good | 18 | 62.4% |
| Currently | 7 | 24.1% |
| Not enough | 4 | 13,5% |
| Total | 29 | 100% |

Distribution of Respondents Based on the Role of Nurses in Preventing Gangrene Wounds in Diabetes Mellitus Patients at H. Sahudin Kutacane Regional Hospital Based on the research results obtained from the distribution of respondents according to the role of nurses in preventing gangrene, the majority of respondents at H. Sahudin Kutacane Hospital received high levels of nursing support, namely 18 people (62.4%).

| Preventive behavior Gangrene wounds | (f) | (%) |
|-------------------------------------|-----|-------|
| Good | 14 | 48,3 |
| Currently | 11 | 37,9 |
| Not enough | 4 | 13,8 |
| Total | 29 | 100,0 |

Distribution of Respondents Based on Gangrene Wound Prevention Behavior in Diabetes Mellitus Patients at H. Sahudin Kutacane Regional Hospital . Based on the research results obtained from the distribution of respondents based on behavior to prevent gangrene in diabetes mellitus patients, data was obtained that some respondents at the H. Sahudin Kutacane Hospital indicated that the gangrene prevention behavior of diabetes mellitus patients was in the good category, namely 14 people (48.3%).

| No | Knowledge Behavior to prevent Gangrene wounds | | | | | | | |
|--------------|---|------|-----------|------|------------|------|-------|------|
| | Good | | Currently | | Not enough | | Total | |
| | N | % | N | % | N | % | N | % |
| 1.Good | 12 | 41,3 | 5 | 17,2 | 0 | 0,0 | 17 | 58,5 |
| 2.Currently | 3 | 10,3 | 6 | 20,6 | 0 | 0,0 | 9 | 31,2 |
| 3.Not enough | 0 | 0,0 | 0 | 0,0 | 3 | 10,3 | 3 | 10,3 |
| Amount | 15 | 51,7 | 11 | 37,8 | 3 | 10,5 | 29 | 100 |

Cross Tabulation of Knowledge of Diabetes Mellitus Patients in Prevention Gangrene Wounds at H. Sahudin Kutacane Regional Hospital. Based on the research results obtained from cross tabulation of good knowledge of 17 people (58.5%) with good gangrene wound prevention behavior of 12 people (41.3%), moderate gangrene wound prevention behavior of 5 people (17.2%), knowledge moderate 3 people (10.3%) with moderate gangrene prevention behavior of 6 people (20.6%) in diabetes mellitus patients at H. Sahudin Kutacane Regional Hospital.

| No | The role of the nurse Behavior to prevent gangrene wounds Total | | | | | | | |
|-------------|---|------|--------|------|-----------|------|------|------|
| | Good | | Enough | | No enough | | Good | |
| | N | % | N | % | N | % | N | % |
| 1.Good | 11 | 37,9 | 5 | 17,3 | 0 | 0,0 | 16 | 55,3 |
| 2.Enough | 2 | 6,8 | 5 | 17,3 | 0 | 0,0 | 7 | 24,1 |
| 3.No enough | 0 | 0,0 | 0 | 0,0 | 6 | 20,7 | 6 | 20,6 |
| Amount | 13 | 44,7 | 10 | 34,6 | 6 | 20,7 | 29 | 100 |

Cross Tabulation of the Role of Nurses in Preventing Gangrene Wounds in Diabetes Mellitus Patients at H. Sahudin Kutacane Regional Hospital. Based on the research results obtained from cross tabulation of the role of nurses as many as 16 people (55.3%) with good gangrene prevention behavior as many as 11 people (37.9%), moderate gangrene prevention behavior as many as 5 people (17.3%), The role of nurses was 2 people (6.8%) with moderate gangrene prevention behavior of 5 people (17.3%) in diabetes mellitus patients at H. Sahudin Kutacane Regional Hospital.

Discussion

Knowledge of Diabetes Mellitus Patients in Preventing Gangrene Wounds at H. Sahudin Kutacane Regional Hospital

Based on the research results obtained from the distribution of respondents according to knowledge, the majority of respondents at RSUD H. Sahudin Kutacane had good knowledge, namely 22 people (75.95).

Knowledge is the result of "knowing" and this occurs after people sense a particular object, most human knowledge is obtained through the eyes and ears. In reality, the public does not know about diabetes mellitus, this is due to low knowledge and minimal access to health information regarding diabetes mellitus, causing the incidence of diabetes to increase from year to year. This is the basis for sufficient public knowledge, which is very important to prevent someone suffering from diabetes mellitus (Juwariyah, 2018).

Provide opportunities for nurses to provide education to DM sufferers. The role of nurses is not only to provide health education services to individuals, families and communities. Health education is very important to be given to type 2 DM sufferers so that they have the ability to be as independent as possible in carrying out self-care, so patients and families must be able to take over this responsibility by being able to carry out treatment independently (self-care) so that patients must be equipped with knowledge. and sufficient skills to prevent the possibility of rehospitalization with worse conditions (Putri Dafriani, 2017).

Based on the research results obtained from the distribution of respondents according to knowledge, the role of nurses with behavior to prevent gangrene wounds is that low knowledge is 3 with behavior to prevent gangrene wounds low, knowledge is medium, with behavior to prevent gangrene wounds is moderate, knowledge is high, with behavior to prevent gangrene wounds is high, the role of nurses is low, and the behavior of preventing gangrene wounds is low, the role of nurses is medium, with the behavior of preventing gangrene wounds being moderate, the role of nurses is high, with the behavior of preventing gangrene wounds being high (Juwariyah, 2018).

Respondents' knowledge is related to measures to prevent wounds in DM sufferers because if a sufferer has knowledge, then the sufferer will be able to choose the best alternative for himself and tend to pay attention to important things. If wound prevention measures are carried out appropriately, it can help the healing process and it is hoped that sufferers become physically, mentally, socially and spiritually healthy so that diabetic ulcers do not occur and other complications can be avoided (Nugroho, 2021).

Based on Octorina's research results, it shows that (62.9%) respondents had low knowledge, (88.6%) had never had gangrene, (51.4%) had low socioeconomic status (Juwariyah, 2018). The results of bivariate analysis showed that there was a relationship between knowledge ($p = 0.038$, $OR = 6$) and socio-economic status ($p = 0.028$, $OR = 6.417$) with behavior to prevent complications of gangrene wounds, while the ulcer experience variable was not related to behavior to prevent complications of diabetic ulcers ($p = 0.619$). Arifin's research results showed that there was a significant relationship between knowledge of type II diabetes mellitus patients and foot care practices in preventing wounds ($p = 0.020$) (Nugroho, 2021).

Patient knowledge is one of the factors related to the behavior of preventing gangrene wounds in diabetes mellitus sufferers at H. Sahudin Kutacane Hospital who are struggling to recover. This is something that diabetes mellitus sufferers need to pay attention to who are given nurse support and information from nurses for prevention. Gangrene wounds become more enthusiastic about undergoing treatment and to be able to reduce the disease, apart from that, sufferers must regularly take medication and have re-checks at the H. Sahudin Kutacane Regional Hospital.

The results of this study are also in accordance with previous research conducted by Siti Rohmah that there is a positive relationship between the motivation of type 2 diabetes mellitus patients regarding the risk of developing diabetic ulcers and the incidence of diabetic ulcers at RSUD Dr. Moewardi. The role of nurses and patient motivation indirectly comes from nursing support to play a role in preventing the occurrence of diabetic ulcers (Arifin, 2021).

The Role of Nurses in Preventing Gangrene Wounds in Diabetes Mellitus Patients at H. Sahudin Kutacane Regional Hospital

Based on the research results obtained from the frequency distribution of respondents according to the role of nurses, the majority of respondents at RSUD H. Sahudin Kutacane received high levels of nursing support, namely 18 people (62.45%). According to Law No. 36 (2014) concerning health workers, a health worker is every person who dedicates themselves to the health sector and has knowledge or skills through education in the health sector to through health efforts to improve the level of public health in the form of disease prevention, health improvement, treatment disease and restoration of public health.

The support that can be provided by nurses or health workers to patients consists of 4 types of support. The first support is informational support, namely in the form of providing information, advice, ideas, direction and other things that are needed. The second point of support is emotional support for a sense of peace and security in the form of sympathy, empathy, trust, care and love. The third support is instrumental support such as providing complete equipment, medicines and other things needed. Meanwhile, the fourth support is assessment support in the form of giving awards or appreciation. This support was obtained from doctors, nurses and other health workers (Arifin, 2021).

This research is in accordance with previous research conducted by Oktorina and friends who stated that the most dominant factors influencing compliance are the role of nurses or support from health workers. Likewise, the results of this study are strengthened by other research, that the role of nurses or support from health workers. Health has a strong and positive relationship with behavior to prevent gangrene wounds so that it will form obedient behavior to avoid the occurrence of gangrene wounds in diabetes mellitus patients (Rohmah, 2019).

The role of nurses or support from health workers is very much needed to improve behavior to prevent gangrene wounds. One of the simplest examples of this support is communication techniques. Nurses or health workers are the first people to know about a patient's health condition, so they have a big role in conveying information about health conditions and several things that patients must do to support their recovery process. Communication carried out by health workers can take the form of health education and health education regarding gangrene wounds for diabetes mellitus patients.

The results of research conducted at RSUD H. Sahudin Kutacane on the role of nurses or support from health workers is an important role in successfully dealing with diabetes mellitus sufferers, this is because diabetes mellitus patients who receive good health services have a positive impact on diabetes mellitus sufferers in their spirit of control. seek treatment and be able to prevent gangrene wounds armed with the information and education provided at each visit for treatment and

taking diabetes mellitus medication at the H. Sahudin Kutacane Regional Hospital and home visits carried out by nurses or health workers.

Based on the research results obtained from the frequency distribution of respondents according to gangrene prevention behavior, some respondents at the H. Sahudin Kutacane Hospital indicated that gangrene prevention behavior was good, namely 14 people (48.3%). Behavior is an activity or activities of each individual that arises from stimuli from within the individual or outside the individual, thereby causing a response. This response can be observed directly or indirectly (Rohmah, 2019).

Diabetic foot wounds are one of the chronic complications of diabetes mellitus that have the worst management results. Diabetic feet that are not properly cared for will easily become injured and quickly develop into gangrenous ulcers if not cared for properly. Knowledge about diabetes forms the basis for decisions about diet, exercise, weight control, blood glucose monitoring, medication use, eye and foot care, and macrovascular control as risk factors (Renaby, 2019).

According to the researchers' assumptions, patient motivation can indirectly influence the relationship between support from health workers and the behavior of diabetes mellitus patients in foot care. The point of foot care for diabetes mellitus patients is that it is important to be carried out by the patient himself at home at a regular time so that the patient is encouraged to do it. Good foot care is by providing education through a foot care education program.

The role of nurses is really needed to improve behavior to prevent gangrene wounds, one of the simplest examples of this support is through communication techniques. Health workers are the first people to know about a patient's health condition, so they have a big role in conveying information about health conditions and several things that patients must do to support their recovery process. Communication carried out by nurses can take the form of health education or health education (Supriyadi, 2017).

4. CONCLUSION

Based on the results of research conducted regarding the role of nurses in preventing gangrene wounds in diabetes mellitus sufferers at H. Sahudin Kutacane Regional Hospital, it can be concluded as follows: the majority of diabetes mellitus sufferers at H. Sahudin Kutacane Regional Hospital have good knowledge regarding the prevention of gangrene wounds in diabetes mellitus patients. Nearly half of diabetes mellitus sufferers at the H. Sahudin Kutacane Regional Hospital have nursing support and a good role for nurses in preventing gangrene. Nearly half of diabetes mellitus sufferers at H. Sahudin Kutacane Regional Hospital have good health support. Nearly half of diabetes mellitus patients at H. Sahudin Kutacane Hospital have good gangrene prevention behavior. There has been an increase in knowledge of diabetes mellitus patients regarding the prevention of gangrene wounds at the H. Sahudin Kutacane Regional Hospital. There is a good role for nurses in changing behavior to prevent gangrene wounds in diabetes mellitus patients at the H. Sahudin Kutacane Regional Hospital by providing support, motivation and nurses providing counseling and health education to diabetes mellitus patients in preventing gangrene wounds. It is hoped that the role of good nurses can increase the knowledge of diabetes mellitus patients in preventing gangrene wounds.

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